BYSTROV, Yu.G.

Determination of the impact energy in a durability test. Zav. lab. 30 no.6:739-741 '64 (MIRA 17:8)

1. Tomskiy inzhenerno-stroitel'nyy institut.

S/119/62/000/003/009/009
D201/D303

AUTHORS: Bystrov, Yu.G., and Paskal', Yu.I.

TITLE: Electronic control instrument for cyclic thermal processing

PERIODICAL: Priborostroyeniye, no. 3, 1962, 26 - 27

TEXT: The authors describe an electronic instrument designed by them which permits setting the delay in both heating and cooling substances and for control of transfer of the sample from one medium to the other. The electronic control instrument consists of four interconnected time relays, all of the same type. Each of the relays represents an ordinary wide-range, with the time constant determined from the formula $\tau = 50$ RC. The thyratron TG-1-0,1/0,3 (TG-1-0.1/0.3), is used instead of a vacuum tube for the relay operation. The description of the circuit and its operation is given and it is concluded that with an adequate number of contacts in the contact bank of electromagnetic relays, the relay may be used for controlling widely diversified classes of output stages with stabi-

Card 1/2

Electronic control instrument ...

lized supplies. The delay accuracy is ± 10 - 12 sec. (for delays of 10 - 15 mins.). There are 2 figures and 1 Soviet-bloc reference.

Card 2/2

BYSTROV, Yu.G.; PASKAL', Yu.I.

Electronic device for controlling cyclic heat treatment.
Priborostroenie no.3:26-27 Mr '62. (MIRA 15:4)
(Electronic control) (Metals--Heat treatment)

BYSTROV, Yu.G.; TOPOROV, G.V.

Impact fatigue in steel at varying stress amplitudes. Zav. lab. 31 no. 12:1504-1505 '65 (MIRA 19:1)

1. Tomskiy inzhenerno-stroitel'nyy institut.

SOV/46-5-2-19/34

AUTHORS: Bystrov, Yu.M. and Yevdokimov, N.A.

TITLE: Effect of Ultrasound on the Process of Galvanization (Vozdeystviye ul'trazvuka na protsess gal'vanicheskogo pokrytiya)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 2, pp 241-242 (USSR)

ABSTRACT: The authors describe tests on two galvanizing solutions: a nickel electrolyte (170 g/l. of $NiSO_4.7H_2O$, 26 g/l. of H_3BO_3, pH = 5.38) and zinc electrolyte (215 g/l. of $ZnSO_4$, 20 g/l. of $Al_2(SO_4)_3$, 100 g/l. of Na_2SO_4). The pieces which were subjected to galvanization were irradiated with 28 kc/s ultrasonic waves parallel to their surfaces. The authors determined the dependence of the permissible current density (above this density the coatings produced are poor) on the intensity of ultrasonics at various electrolyte temperatures. This dependence is given in Fig.1. Fig.2 gives the dependence of the amount of the metal deposited per unit time and per unit area (the ordinate) on the intensity of ultrasonics (the abscissa)

Card 1/3

Effect of Ultrasound on the Process of Galvanization

at various electrolyte temperatures. The curves of Fig.2 correspond to the conditions of the maximum permissible current density as given by Fig.1. The results obtained show that as the ultrasonic intensity is increased from zero to 0.3 W/cm^2 the galvanizing process is greatly accelerated. Further increase of the ultrasonic intensity accelerates the galvanizing process to a lesser degree. Numerical values of the acceleration produced by ultrasonic waves of intensities from zero to 1.0 W/cm^2 are given in the table on p 242.

Note. This is an abridged translation.

There are 2 figures, 1 table and 1 Soviet reference.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V.I. Ul'yanova (Lenina) (Leningrad Electro-Technical Institute imeni V.I. Ul'yanov (Lenin))

SOV/46-5-2-19/34

Effect of Ultrasound on the Process of Galvanization

SUBMITTED: July 28, 1958

Card 3/3

24.1900
1.1800

S/058/62/000/003/061/092
A061/A101

AUTHOR: Bystrov, Yu. M.

TITLE: Electrodeposition of metals in the ultrasonic field

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 44, abstract 3G357 (Sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 12, Moscow, 1960, 105-111)

TEXT: Ultrasonic oscillations with intensities varying between 0.6 and 1.0 w/cm^2 appear to be an optimum for intensifying electroplating processes. If above 1 w/cm^2, the amount of the depositing metal may be diminished at the expense of the degree of dispersion. Ultrasonic oscillations of suitable intensity (1) increase the current yield and the amount of metal deposit, (2) permit an almost poreless plating to be obtained and slightly change the structure of the metal deposit, (3) permit the admissible current density to be raised by several times and thereby speed up the electroplating process. The present report covers part of an investigation conducted at the Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Institute of Electrical

Card 1/2

Electrodeposition of metals in the ultrasonic field

S/058/62/000/003/061/092
A061/A101

Engineering imeni V. I. Ul'yanov [Lenin]) concerning the effect of ultrasonic oscillations on galvanic processes.

[Abstracter's note: Complete translation]

Card 2/2

S/194/62/000/005/083/157
D222/D309

AUTHOR: Bystrov, Yu.M.

TITLE: The influence of ultrasound on the processes of electro-plating of metals

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, abstract 5-5-39 yu (V sb. Prom. primeneniye, ul'trazvuka. Kuybyshevsk. aviats. in-t. Kuybyshev, 1961, 196-202)

TEXT: The influence of ultrasound on the processes of electro-plating of nickel and zink from sulfuric acid electrolytes was investigated. The ultrasonic waves (frequency 27 kc/s) propagated in parallel with the cathode. The intensity was varied from 0.02 to 7.0 W/cm^2. The following parameters were determined: The quantity of precipitated metal, the output current, the permissible current density and the influence of intensity on the thickness of the plating. At large current densities the ultrasound considerably increases the quantity of precipitated metal and increases the output current. The ultrasound increases the permissible cathode density of current.
Card 1/2

The influence of ultrasound on the ...

Increasing the intensity beyond 0.6 W/cm^2 is not effective. The maximal increment of current density corresponds to 0.2 W/cm^2. With the use of ultrasound the mat nickel plating is finer grained and harder. 7 figures. 4 references. [Abstractor's note: Complete translation].

Card 2/2

1.1800 1521 1087

32919
S/194/61/000/011/049/070
D271/D302

AUTHORS: Bystrov, Yu.M., Gulya-Yanovskiy, V.V., Komissarova, R.F., Merkulov, L.G., Novitskiy, V.A. and Sil'verstov, S.P.

TITLE: Nickel plating of type metal stereo plates in the ultrasonic field

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 11, abstract 11 E81 (Poligr. proiz-vo, 1961, no. 4, 13-15)

TEXT: The process of electrodeposition of metals in the ultrasonic field is briefly considered; it is pointed out that ultrasonics intensify this process which is explained by acceleration of diffusion phenomena in the near-cathode layer. Nickel plating of stereos with the purpose of increased wearability was conducted under the influence of ultrasonic frequency of 27 kc/s, with the specific power of 0.004 - 7 W/cm^2. It is shown that application

Card 1/2

Nickel plating of type metal...

of ultrasonics made it possible to shift the threshold of quality coverage from 1.5 to 5 A/dm^2; this accelerates by four times the process of nickel deposition. At the same time, ultrasonic vibrations make it possible to raise cover hardness to 450 kg/mm^2 (instead of 250 when usual methods of nickel plating are used). It is noted that it is not worth while increasing the ultrasonic intensity beyond 0.5 W/cm^2 as the deposition of metal function of current remains virtually constant after this limit. An experimental ultrasonic bath was developed with a capacity of 80 l, using two vibrators type PM-1.3; experimental plating was done in this bath in optimal conditions. It was found that by using ultrasonics nickel plating can be accelerated altogether by 6-8 times. 5 figures. 1 table. [Abstracter's note: Complete translation]

Card 2/2

1,1800

39438
S/081/62/000/012/011/063
B168/B101

AUTHOR: Bystrov, Yu. M.

TITLE: Effects of ultrasound on the processes of electrodeposition of metals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 82, abstract 12B573 (Sb. "Prom. primeneniye ul'trazvuka. Kuybyshevsk. aviats. in.t". Kuybyshev, 1961, 196 - 202)

TEXT: The influence of ultrasonic vibrations (0.02 - 7.0 w/cm^2, 27 kc/sec) on electrodeposition of metals from nickel and zinc baths was investigated. At i = 0.5 - 1 a/dm^2 ultrasonic vibrations do not affect the quantity of nickel deposit, whereas at i = 5 a/dm^2 ultrasonic vibrations with an intensity of 0.6 - 1 w/cm^2 greatly increase electrodeposition of nickel, although a further increase in intensity to 10 w/cm^2 has practically no effect. By superimposing ultrasonic vibrations it is possible to increase i from 1 - 1.5 a/dm^2 to 4 a/dm^2, in which case a good-quality plating is

Card 1/2

Effects of ultrasound on the ...

obtained. At the same time the hardness of the plating is increased and the grain-size reduced. It is concluded that low-intensity ultrasonic vibrations affect electrodeposition of metals in the same way as mechanical mixing, and they will speed up the electrodeposition process 3 - 6 times. [Abstracter's note: Complete translation.]

Card 2/2

BYSTROV, Yuriy Mikhaylovich; ANUFRIYENKO, A.Ye., red.; VASIL'YEV, Yu.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Use of ultrasonics in electroplating]Primenenie ul'trazvuka v gal'vanicheskikh protsessakh. Leningrad, 1962. 20 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Elektricheskie metody obrabotki materialov, no.5) (MIRA 15:11)

(Electroplating)
(Ultrasonic waves—Industrial applications)

MIKHAYLOV, B.M.; TER-SARKISYAN, G.S.; BYSTROVA, A.A.

Polyenic compounds. Report No.16: Thioketals of unsaturated ketones and their transformations. Izv.AN SSSR. Ser.khim. no.1:46-50 Ja '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

MIKHAYLOV, B.M.; TER-SARKISYAN, G.S.; BYSTROVA, A.A.

Polyene compounds. Report No.17: Condensation of vinyl ethyl ether with thio ketals. Izv. AN SSSR. Ser. khim. no.3:443-446 '65.
(MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

USSR/Cultivated Plants - Fruits. Berries. M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44319

Author : Bystrova, A.I.

Inst : Kuban Agricultural Institute.

Title : The Effect Fertilizers, Irrigation and of the Removal of Shoots on the Strawberry Crop.

Orig Pub : Sb. stud. nauchn. rabot. Kubansk. s.-kh. in-t, 1956 (1957), vyp. 1, 55-58.

Abstract : An experiment in fertilizing, irrigating and removal of the runners was carried out on the strawberry plantation of the Kirov collective farm in the Korenevskiy rayon of the Krasnodarskaya oblast. $N_{10}P_{25}K_{15}$ was applied on April 28 on plots measuring 100 m^2 into the furrows and followed by harrowing. The watering of the furrows was carried out on May 14, June 1, June 23 at the rate of

Card 1/2

USSR/Cultivated Plants - Fruits. Berries. M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44319

800 m^3 per 1 hectare. The removal of the runners was carried out 10-12 days from the first day of the ripening of the berries. With irrigation only the average yield of 6 varieties comprised 117% of the control. When fertilizers only were placed the yield was 121% on the control. When both the fertilizers and watering were applied the yield was 146% of the control. When the whole complex - fertilizers, watering and the removal of the runners - was used the yield was 152% of the control. -- L.M. Shashkina

Card 2/2

BYSTROVA, A.I., vrach; SERGEYEV, V.I., fel'dsher (Leningrad)

Transfusion of antishock solutions during emergency medical aid. Fel'd. i akush. 27 no.12:42-44 D'62. (MIRA 16:7)
(FIRST AID IN ILLNESS AND INJURY) (SHOCK)

L 4427-65 FBD/EWT(l)/EWG(v)/EEC-4/EEC(t) Pe-5/Pae-2/Pi-4 GW/WS

ACCESSION NR: AR5001312 S/0269/64/000/010/0048/0048

SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 10.51.327

AUTHOR: Bystrova, Ch. V.; Gosachinskiy, I. V., Yegorova, T. M., Ryzhkov, N. F.

TITLE: Observations of the radio sources W44 and W28 with high angular resolution on 21-cm waves

CITED SOURCE: Astron. tsirkulyar, no. 269, noyabrya 20, 1963, 1-3

TOPIC TAGS: radioastronomy, radio emission, radio source W44, radio source W28, supernova

TRANSLATION: Observations of two surmised remnants of explosions of supernovae were made with an antenna having an angular resolution of 7'. It was found that a model of sources in the form of spherically symmetrical envelopes does not correspond to observational data. Absorption in the radio emission lines of these sources made it possible to estimate the distance to them. Two new sources have been discovered near W44. I. G.

SUB CODE: AA

Card 1/1 ENCL: 00

BYSTROVA, E. D.

8(2) PHASE I BOOK EXPLOITATION SOV/1855

Soveshchaniye po elektricheskim kontaktam. Moscow. 1956.

Elektricheskiye kontakty; trudy soveshchaniya (Electrical Contacts; Transactions of the Conference) Moscow, Gosenergoizdat, 1958. 303 p. 4,150 copies printed.

Editorial board: B.S. Sotskov (Resp. Ed.), V.V. Usov, R.S. Kuznetsov, I.Ye. Dekabrun, and Z.S. Kirillova; Ed.: I.Ye. Dekabrun; Tech. Ed.: K.P. Voronin.

PURPOSE: This collection of articles is intended for engineers and technicians designing, developing and operating electrical apparatus and is concerned with electric contact materials. It may also be useful in scientific research institutes and laboratories.

COVERAGE: This book comprises reports delivered at the Electric Contacts Conference held in Moscow in November, 1956. These papers cover physical processes occurring during connecting or disconnecting, methods of designing and testing electric contacts, production and characteristics of contact materials. During this conference of the Institut avtomatiki telemekhaniki AN SSSR (Institute of Automation and Telemechanics, Academy of Sciences, USSR) participants approved periodic conferences of physicists, metallurgists, chemists and apparatus design specialists to discuss problems of electric contacts, which are the components of electric apparatus primarily influencing the reliability of electric systems, especially d-c control systems. Their physical, thermal, mechanical and chemical processes have still not been well analyzed. References are given at the end of most of the reports.

II. DESIGN : APPLICATION AND TESTING METHODS

Paylar, G.O. (Zavod "Dinamo," Moscow - Moscow "Dinamo" Plant) Wear Resistance of Contacts in D-c Contactors and Controllers 138
The author describes the method of testing wear resistance of contacts at the "Dinamo" Plant in Moscow and proposes that all other plants adopt this method as a standard one to enable the comparison of test results.

Gordon, A.V. Methods of Testing the Resistance to Wear of Electric Contacts in Aircraft D-c Contactors 148
The author reports the results of work he carried out along with engineers K.V. Isayev, M.A. Prusov, V.P. Simonova. He describes the method applied for testing aircraft D-c contacts. This method permits approximating testing conditions with real operating conditions. He suggests applying this method for testing contactors of general industrial use.

Fikh, Y.I., and M.A. Gurevich. (Zavod "ATE-1"-Moscow "ATE-1" Plant) Contacts of Vibrator Voltage Regulators 156
The authors summarize the results of investigations they carried out in the Electric Machine Laboratory of the "ATE-1" Plant along with Engineers Ye.K. Shvedov, V.I. Khrunin, Ya.M. Levit, L.B. Bayer, R.V. Gorelov, O.G. Sushkova on operating conditions of contacts in vibrator voltage regulators of automobile generators, on the design of contact fittings and on various pairs of contact metals.

III. PRODUCTION AND CHARACTERISTICS OF CONTACT MATERIALS 171

Al'tman, A.B., I.P. Melashenko, and E.S. Bystrova (Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti - Scientific-Research Institute for the Electrical Industry) Modern Sintered-Metal Electric Contacts. 171
Sintered metals are presently the most suitable materials for arcing tips of high-duty circuit-breakers. The authors explain the technical requirements, describe the structure of the compositions, methods of production, characteristics and applications.

Frantsevich, I.N., and O.K. Teodorovich. (Institut Metallokeramiki i Spetsial'nykh Splavov AN USSR - Institute for Sintered Metals and Special Alloys, UkrSSR Academy of Sciences) Production Methods of Sintered-Metal Electric Contacts 186
The authors describe the results of their investigation of the comparison of various methods of producing sintered metals.

Usov, V.V. and Murav'yeva, Ye.M. (Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti - Scientific-Research Institute for the Electrical Industry) Thermochemical Method for Production of Contact Compositions. 199
Oxidation of alloys at higher temperatures results in structure similar to that obtained by the sintered metal power method. The authors explain this thermochemical method and its advantages.

Al'tman, A.B., and E.D. Bystrova. (Scientific-research Institute for the Electrical Industry) Internal Structure of Wear-resistant Electric Contacts 214
The authors discuss their investigation of the influence of internal structure of heterogeneous materials on wear resistance. They paid special attention to the alloys Ag-Cu, Ag-Si-Mg, and Ag-Al.

Card 8/11

L 54719-65 EWP(e)/EPA(s)-2/EWI(m)/EPF(c)/EWP(i)/EPR/EPA(w)-2/T/EWP(b) Pab-10/
Pr-4/Ps-4/Pt-7 WW/JG/WH
ACCESSION NR: AP5018121 UR/0292/64/000/009/0064/0064

AUTHOR: Bystrova, E. S.

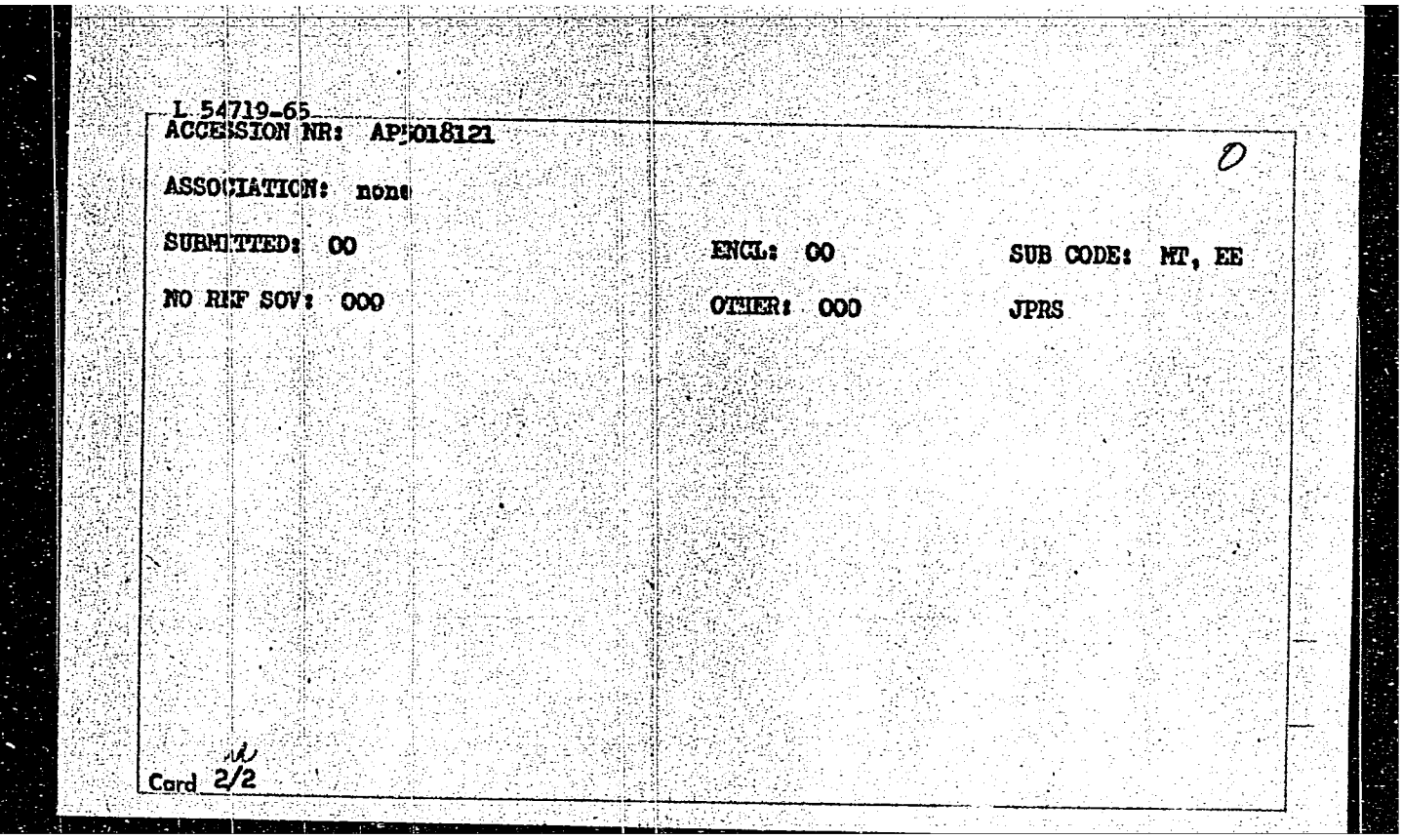
TITLE: Third Scientific-Technical Conference on Electrical Metalloceramics

SOURCE: Elektrotekhnika, no. 9, 1964, 64

TOPIC TAGS: electric engineering conference, cermet product, electric engineering

Abstract: The Third Scientific-Technical Conference on Problems in the Development of Industry and the Introduction of Electrotechnical Parts of Metalloceramic Materials was held in Riga in July 1964. The conference was organized by the State Committee for Electrical Engineering under Gosplan USSR, the State Committee for the Coordination of Scientific Research, and the Council of National Economy of the Latvian SSR, and the Latvian Department of the Scientific-Technical Society of Mashprom. There were 376 participants from 108 plants and scientific research organizations. The proceedings of the conference will be published in the fourth quarter of 1964. A brief description of some of the papers and the work being done on metalloceramics and powder metallurgy at several research institutes is given in the article.

Card 1/2



L 54719-65
ACCESSION NR: AP5018121

0

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, EE

NO REF SOV: 000 OTHER: 000 JPRS

Card 2/2

AL'TMAN, [illegible]; BESTROVA, E.S.

Investigating the sintering of Cu-Cd and Ag-Cd ceramic metal alloys. Poroch.met. 4 no.4:21-27 Jl-Ag '64.

(MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.

BYSTROVA, E. S.

8(2) PHASE I BOOK EXPLOITATION SOV/1355

Soveshchaniye po elektricheskim kontaktam. Moscow. 1956.

Elektricheskiye kontakty; trudy soveshchaniya (Electrical Contacts; Transactions of the Conference) Moscow, Gosenergoizdat, 1958. 305 p. 4,150 copies printed.

Editorial board: B.S. Sotskov (Resp. Ed.), V.V. Usov, R.S. Kuznetsov, I.Ye. Dekabrun, and Z.S. Kirillova; Ed.: I.Ye. Dekabrun; Tech. Ed.: K.P. Voronin.

PURPOSE: This collection of articles is intended for engineers and technicians designing, developing and operating electrical apparatus and is concerned with electric contact materials. It may also be useful in scientific research institutes and laboratories.

COVERAGE: This book comprises reports delivered at the Electric Contacts Conference held in Moscow in November, 1956. These papers cover physical processes occurring during connecting or disconnecting, methods of designing and testing electric contacts, production and characteristics of contact materials. During this conference of the Institut avtomatiki telemekhaniki AN SSSR (Institute of Automation and Telemechanics, Academy of Sciences, USSR) participants approved periodic conferences of physicists, metallurgists, chemists and apparatus design specialists to discuss problems of electric contacts, which are the components of electric apparatus primarily influencing the reliability of electric systems, especially d-c control systems. Their physical, thermal, mechanical and chemical processes have still not been well analyzed. References are given at the end of most of the reports.

II. DESIGN : APPLICATION AND TESTING METHODS

ACCESSION NR: AP4044907 S/0226/64/000/004/0021/0027

AUTHOR: Al'tman, A.B., By*strova, E.S.

TITLE: A study of the sintering of metal powder alloys of Cu-Cd and Ag-Cd

SOURCE: Poroshkovaya metallurgiya, no. 4, 1964, 21-27

TOPIC TAGS: powder metallurgy, sintering, powder alloy, cadmium alloy, copper cadmium alloy, silver cadmium alloy, electrical contact

ABSTRACT: During the manufacture of Ag-Cd and Cu-Cd alloys by the methods of metallurgical technology, the burn-out (electric arc erosion) of cadmium attains high values because of the high vapor pressure of Cd at 1273-1423K (approx. 10,000 mm Hg). The volatility of cadmium makes it difficult to obtain alloys which are stable in composition, as well as presenting a health hazard. Considerable difficulties are also experienced during manufacture of cadmium alloys by the conventional methods of powder metallurgy. An experimental investigation was therefore carried out on the processes taking place during sintering of metal powder alloys of the system Cu-Cd and Ag-Cd, and the conditions for sintering Cu-Cd and Ag-Cd alloys with a given cadmium content were discussed. A loss of cadmium during sintering of Cu-Cd alloys can be avoided by performing the

ACCESSION NR: AP4044907

sintering in an argon atmosphere and by using a packing of 98-99% Al_2O_3 and 1-2% CdO, with an initial gauge pressure of 2 atm. Some reduction of the cadmium loss was also obtained by using a 100% Al_2O_3 packing, or by increasing the initial gauge pressure to 25 atm without any packing. These results are tabulated, along with some properties of the powdered metals, metallurgical cadmium bronze, and pure copper. Among the Ag-Cd alloys, a powder alloy containing 76.5% Ag and 23.5% Cd was investigated. After the metal powders were mixed in the necessary proportions to obtain the above-mentioned composition, blanks were pressed and sintered at approx. 1173K in an oxidizing atmosphere. The sintered specimens were repeatedly reheated to approx. 773K to reduce the cadmium oxide and to obtain a Ag-Cd solid solution. No cadmium loss was observed. Subsequent additional pressing and annealing yielded resistant, dense pieces of Ag-Cd alloy, with a stable structure and properties. For a full reduction of cadmium oxide, porous pressings are required; hence, correct selection of the applied pressures is important. The results of tests of opening electrical contacts made of metal powder alloys are also presented. These tests showed that the wear resistance of contacts made of powder Cu-Cd alloy (99% Cu, 1% Cd) was about 1.5-2 times as high as that of rolled copper of the M1 type.

ACCESSION NR: AP4044907

Contacts made of powder Ag-Cd alloy (76.5% Ag; 22% Cd; 1% Ni; 0.5% Fe) are used in the voltage regulators of diesel-electric locomotives. Such contacts work in a DC circuit at 8 amperes and 75 volts. Operational experience of over 10 years has shown that they are stable against burn-out and ensure voltage stability within the limits of ± 1 volt. Under the same conditions, contacts of silver and of the composition silver-cadmium oxide (12% CdO) have proven inadequate. "Engineers V.N. Sorokina and T.V. Peregudova took part in the metallographic analysis; the x-ray studies were carried out by Engineer V.L. Kalikhman at the Moskovskiy institut stali i splavov (Moscow Steel and Alloy Institute) under the direction of Prof. Ya. S. Umanskiy; Engineer G.O. Feyler studied the wear of the cadmium bronze contacts." Orig. art. has: 7 figures and 3 tables.

ASSOCIATION: VNIIEM

SUBMITTED: 15May63 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 000

Card 3/3

KRUTOYARSKIY, M.A.; LOPATIN, B.G.; BYSTROVA, G.A.; UKHANOV, A.V.; DUKHANIN, S.F.; ZABURDIN, K.S.

Kimberlites in the Omonos and Ukukit Basins. Trudy NIIGA 65:79-105 '59. (MIRA 13:12)

(Omonos Valley--Kimberlite)
(Ukukit Valley--Kimberlite)

BYSTROVA, G.V. (Perm'); UTKINA, N.S. (Perm')

Conference of the Ural Branch of the Psychological Society. Vop. psikhol. 8 no.4:190 Jl-Ag '62. (MIRA 16:1)
(Psychology—Congresses)

BYSTROWA, G.V.

Individual abilities to fulfill literary assignments in connection with individual differences in the interrelationship between signal systems. Vop. psikhol. 8 no.1:41-50 Ja-F '63. (MIRA 16:4)

1. Kafedra psikhologii pedagogicheskogo instituta, Perm'.
(Ability—Testing)

BYSTROVA, G. V.

Conservation of parts with volatile inhibitors. Avt. prom. 29 no.5:47-48 My '63. (MIRA 16:4)

1. Ul'yanovskiy avtomobil'nyy zavod.

(Corrosion and anti-corrosives)

BYSTROVA, I.R.

Changes in hepatic function in coronary insufficiency. Terap. arkh. 29 no.5:26-29 My '57. (MIRA 11:4)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav.-prof. S.V. Shestakov) Kuybyshevskogo meditsinskogo instituta.
(CORONARY DISEASE, physiology,
liver funct. (Rus)
(LIVER, in var. dis.
coronary dis. (Rus)

BYSTROVA, I. R.: Master Med Sci (diss) --- "On changes in the function of the liver with coronary insufficiency". Kuybyshev, 1958. 18 pp (Kuybyshev State Med Inst), 220 copies (KL, No 1, 1959, 123)

BYSTROVA, I.R.

Prothrombin and fibrinogen content in coronary insufficiency.
Trudy Kuib.med.inst. 11:62-65 '60. (MIRA 15:8)

1. Iz kliniki propedevtiki vnutrennikh bolezney (zav. klinikoy prof. S.V.Shestakov) Kuybyshevskogo meditsinskogo instituta.
(CORONARY HEART DISEASE) (PROTHROMBIN) (FIBRINOGEN)

VORONTSOV, Ye.S. (Chelyabinsk); BYSTROVA, I.S. (Chelyabinsk)

Mechanism and kinetics of the dissociation of calcium carbonate. Izv. AN SSSR. Met. no.1:25-32 Ja-F '65. (MIRA 18:5)

VORONTSOV, Ye.S.; BYSTROVA, I.S.

Kinetics and the mechanism of iron reduction by hydrogen from molten magnetite. Izv.vys.ucheb.zav.; chern. met. 8 no.4:18-24 '65. (MIRA 18:4)

1. Chelyabinskiy politekhnicheskiy institut.

OLSUF'YEV, N.G.; YEMEL'YANOVA, O.S.; UGLOVOY, G.P.; SIL'CHENKO, V.S.; KHOROSHEV, I.G.; YEZHOVA, Ye.N.; BESSONOVA, M.A. ; VEDENEYEVA, Ye. V.; AREF'YEV, S.S.; SHELAHOVA, G.M.; SORINA, A.M.; BORODIN, V.P.; KOROLEVA, A.P.; SUVOROVA, A.Ye.; ONIKHIMOVSKAYA, V.A.; STOLYAROVA, A.D.; BYSTROVA, K.A.; REPINA, R.F.; MYASNIKOV, Yu.A.; LEVACHEVA, Z.A.; YEGIAZARYAN, K.K.; RAVDONIKAS, O.V.; SARMANEYV, A.P.

Optimal periods for testing skin reaction in subjects inoculated against tularemia with a dry live vaccine and vaccinal, reactogenic and immunogenic properties of this preparation. Zhur. mikrobiol. epid. i immun. 32 no.6:92-98 Je '61. (MIRA 15:5)

1. Iz otdela prirodnoochagovykh infektsiy Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, otdelov Osobo opasnykh infektsiy Voronezhskoy, Leningradskoy, Moskovskoy, Smolenskoy, Stalingradskoy, Tambovskoy, Tul'skoy, oblastnykh sanitarno-epidemiologicheskikh stantsiy i Omskogo instituta epidemiologii, mikrobiologii i gigiyeny.

(TULAREMIA) (VACCINES)

AUTHORS: K.A. Bystrova and V.F. Funke SOV/24-58-6-6/35

TITLE: Some Data on the Properties of Cemented Carbides with Non-uniform Distribution of the Cementing Phase (Nekotorye dannye o svoystvakh tverdykh splavov s neravnomernym raspredeleniyem tsementiruyushchey fazy)

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 6, pp 37-41 (USSR)

ABSTRACT: The strength of metal-ceramic alloys is determined by the thickness of the layers of the metallic material separating the carbide particles. Gurland and Bardzil (Ref 1) have shown that the properties of tungsten carbide bonded with cobalt can be varied within wide limits by suitable control of the grain size or the cobalt content. Meerson and Samsonov (Ref 2) showed that the strength of cemented carbides can be increased by utilising a non-uniform distribution of the carbide component. The increase in thickness of the Co layer surrounding the carbide particles resulting from the non uniform Co distribution enables an increase in strength to be obtained, without any reduction of the carbide content which would lead to impaired abrasion resistance. The results of the

Some Data on the Properties of Cemented Carbides with Non-Uniform Distribution of the Cementing Phase

authors' experimental work permitted a correlation between the physical properties of the cobalt-bonded tungsten carbides and the degree of non-uniformity in the distribution of the cobalt phase. The non-uniform experimental alloys, all of which contained 6% Co, were prepared in the following manner: A master alloy VK2 (98% WC, 2% Co), prepared in sintered granular form, was mixed either with pure Co powder or with a powder mixture VK20 (80% WC and 20% Co) to give a final mixture containing 8% Co. After grinding in a ball mill for 6 to 48 hours, the cemented carbides were produced by hot pressing; a small proportion of the liquid phase was squeezed out during this operation leading to a final cobalt content of 6%. Alloys prepared in this way had a porosity of 0.2 to 0.4%. The uniformity of the cobalt distribution varied with the time of grinding, and photomicrographs in Figs 1 to 5 demonstrate the relationship between the grinding time and uniformity of cobalt distribution: the green VK2 + Co mixture ground for

Some Data on the Properties of Cemented Carbides with Non-Uniform Distribution of the Cementing Phase

(a) 6 hours and (b) 12 hours, is shown in Fig 1. Unetched microsections of cemented carbides prepared from the VK2 + Co mixture ground for 6, 12, and 24 hours are shown in Fig 2. The microstructure of the cemented carbides prepared from the same mixture ground for 12 and 48 hours is shown in Figs 3a and 3b. The microstructure of the cemented VK2 + VK20 mixture ground for 6 hours is shown in Fig 4, while that of the hot pressed WC + Co mixture ground for 48 hours is reproduced in Fig 5. Other experimental alloys were produced by: (a) hot pressing a mixture of Co and WC powders (alloy VK6); sintering in hydrogen a mixture of Co and WC powders (alloy VK6A); standard procedure (alloy VK6V). From the microstructure of the experimental alloys prepared from the VK2 + Co mixture, it can be seen that a non-uniform distribution of cobalt was preserved provided the ball milling had not exceeded 12 hours. The following properties were investigated: apparent density of the product mixtures γ; bending strength σ; Rockwell hardness R_A; abrasion

Some Data on the Properties of Cemented Carbides with Non-Uniform Distribution of the Cementing Phase

resistance K_{CT}; coercive force H_c; particle size distribution of the WC phase (percentage of fractions less than 1 μ, and between 1 and 2 μ). The results, tabulated on page 39, can be summarised as follows: the apparent density and the degree of non-uniformity of Co distribution decreased with the time of ball milling. The original non-uniformity of the VK2 + Co mixture was preserved provided that the ball milling had not been prolonged for more than 12 hours: the bending strength of these carbides was approximately twice that of the carbides VK6, VK6A, and VK6V. Neither hardness, nor the coercive force of the cemented carbides, was affected by the changes in the Co distribution. "Controlled" non-uniformity of the Co distribution resulted in an increase of the bending strength from 113 to 220 kg/cm^2 and also in a slight improvement of the abrasion resistance. These advantages were not obtained for the carbides prepared from the VK2 + VK20 mixture. If the cobalt distribution is uniform, the thin metal layers surrounding the carbide particles are in a stressed condition

Some Data on the Properties of Cemented Carbides with Non-Uniform Distribution of the Cementing Phase

and cannot deform plastically and this leads to brittleness. Thicker Co layers reduced the stress concentrations and acted as cushions, thus increasing the plasticity of the alloy. The decrease of the apparent density of mixture VK2 + Co with grinding time is attributed to a decrease in size of the sintered carbide granules and a more uniform Co distribution. The effect of the Co content on the bending strength of alloys with "controlled" non-uniformity of the Co distribution was not studied. However, a graph (Fig 7) shows that an increase in the Co content from 4.5 to 6.2% brings about an increase in the bending strength from 120 to 220 kg/cm^2. This considerable increase in strength is attributed to

Some Data on the Properties of Cemented Carbides with Non-Uniform Distribution of the Cementing Phase

the fact that if the composition of the agglomerated WC phase (2% Co) remains constant, the degree of non-uniformity increases at a faster rate than the total cobalt content.
There are 10 photomicrographs, 2 graphs, 1 table and 3 references, of which 2 are Soviet and 1 English.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All Union Research Institute for Cemented Carbides)

SUBMITTED: April 16, 1957

SOV/180-59-2-8/34

AUTHORS: Baranov, A.I., Bystrova, K.A., Novikova, T.A., and Funke, V.F. (Moscow)

TITLE: The Influence of Molybdenum, Chromium and Aluminium on the Strength of Hard Alloys on a Nickel or Cobalt Base (Vliyaniye molibdena, khroma i alyuminiya na prochnost' tverdykh splavov na nikelevoy i kobal'tovoy osnove)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Metallurgiya i Toplivo, 1959, Nr 2, pp 43-47 (USSR)

ABSTRACT: The influence of the alloying additions on the strength of WC-Co and WC-Ni alloys was investigated. Alloys containing 8, 10, 12 and 15% Co and 8% Ni were used. Various additions of Cr, Mo, and Al were added to the Co or Ni. (Cr Mo and Al form wide ranges of solid solution with Co and Ni). Alloys were prepared by sintering at 1400 to 1600 °C in a hydrogen atmosphere. X-ray analysis showed that Co in all the alloys had a cubic structure. The distribution of the alloying addition between WC and Co or Ni was determined by chemical analysis after extracting Co or Ni with HCl at 100 °C. The results are given in the table. Cr in WC-Co-Cr alloys is in solid solution with Co almost completely, but in WC-Ni-Cr

Card 1/3

The Influence of Molybdenum, Chromium and Aluminium on the Strength of Hard Alloys on a Nickel or Cobalt Base

alloys it is in the carbide phase. Mechanical strength was determined from bend tests and results showed that at room temperature the binary WC-Co and WC-Ni alloys have the highest strength. Addition of 20% Cr to the cementing phase results in a fall in strength of WC-Co alloys from 170 to 85 kg/mm^2 and of WC-Ni alloys from 140 to 110 kg/mm^2. At elevated temperatures the maximum strength is obtained by an alloying addition, the highest increase being shown by a Cr addition and the lowest by an Al addition. The highest strength is shown by alloys containing relatively small amounts of alloying addition (3-7%Cr, 3-7%Cr, 1-2%Cr). Further increases in alloying additions lead to decrease in strength and a large decrease in plasticity of the Co phase even at 600 - 800 °C. The effect of Cr, Mo and

SOV/180-59-2-8/34

The Influence of Molybdenum, Chromium, and Aluminium on the Strength of Hard Alloys on a Nickel or Cobalt Base

Al additions increases with total content of cementing phase.
There are 5 figures, 1 table and 9 references, 5 of which are English, two German and two Soviet.

SUBMITTED: November 27, 1958

Card 3/3

S/137/62/000/002/046/144
A006/A101

AUTHORS: Blatov, V. D., Bystrova, K. A., Smirnov, F. F., Funke, V. F.

TITLE: On the problem of replacing cobalt by nickel in titanium-carbide tungsten-cobalt sintered carbides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 33, abstract 2G260 ("Sb. tr. Vses. n.-i. in-t tverdykh splavov", 1960, no. 2, 37-45)

TEXT: It was established that the decrease of mechanical and cutting properties of TiC-WC-Co sintered carbides when replacing Co by nickel, depends on the amount of structurally free WC. Maximum decrease is observed in grade T15K10 (T15K10) sintered carbides. With a higher TiC content the difference in the properties of sintered carbides with Co and Ni decreases; at 30% TiC (sintered carbide - $T_{30}K_4$) no reduction of physical, mechanical and cutting properties was observed. The operational strength of type T-15 sintered carbide with a coarse-grained T-phase is higher than that of a carbide with a fine-grained T-phase. Data were obtained on the effect of Ni_2O_3-reduction temperature

Card 1/2

On the problem of replacing cobalt ...

S/137/62/000/002/046/144
A006/A101

on the granularity of Ni-powder and on the effect of the particle size upon the properties of grade T 15H6 (T15N6) sintered carbide.

I. Brokhin

[Abstracter's note: Complete translation]

Card 2/2

18.6100

82625

S/180/60/000/004/020/027
E193/E483

AUTHORS: Bystrova, K.A., Novikova, T.A. and Funke, V.F. (Moscow)

TITLE: The Effect of Alloying Additions on Structure and Properties of Tungsten Carbide-Cobalt Hard Alloys

PERIODICAL: Izvestiya Akademii nauk,SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No.4, pp.124-128

TEXT: The object of the investigation described in the present paper was to determine the effect of chromium, molybdenum and aluminium additions on the grain size, transverse rupture strength and hardness of cobalt-bonded, sintered tungsten carbides. The experimental specimens contained 8, 12 or 15% Co, the content of the alloying additions introduced in the grinding stage varying between the following limits (wt. % of the cobalt content): Cr - 3 to 20; Mo - 3 to 20; Al - 1 to 8. Several conclusions were reached. (1) The grain size of the WC phase is reduced in the presence of chromium and molybdenum but is unaffected by addition ofaluminium. (2) With increasing content of Cr, Mo and Al the room temperature strength of the sintered carbide decreases, the decrease being largest in the case of chromium and smallest in

Card 1/2

82625
S/180/60/000/004/020/027
E193/E483

The Effect of Alloying Additions on Structure and Properties of Tungsten Carbide-Cobalt Hard Alloys

the case of molybdenum addition. (3) Both chromium and molybdenum increase hardness of the cobalt-bonded tungsten carbide; the increase in hardness due to the presence of aluminium is slight and is observed only when small amounts (2 to 4%) of this metal are introduced into a carbide with a low (8%) cobalt content. There are 4 figures, 1 table and 8 references: 4 Soviet, 3 English and 1 German.

SUBMITTED: November 27, 1959

Card 2/2

BYSTROVA, K.A.

23432
S/121/61/000/006/009/012
D040/D112

181120 also 2908

AUTHORS: Funke, V.F., Romanov, K.F., Novikova, T.A., Guseva, A.N., and Bystrova, K.A.

TITLE: Wear resistance of W-Co hard-alloy cutter tips in machining EI437 alloy

PERIODICAL: Stanki i instrument, no. 6, 1961, 32-33

TEXT: Results are given of an experimental investigation with W-Co alloy-tipped cutters in turning cylindrical smooth and grooved blanks of ЭИ 437 (EI437) heat-resistant alloy. The experiments were performed on a Gustlow Werke lathe, using a cutting speed v=30 m/min, cutting depth t=1.0 mm and feed rates s of 0.6 and 0.3 mm/rev for continuous cutting (on smooth blanks); intermittent cutting (grooved blanks) was done with v=10 m/min, t=1.0 mm and s=0.2 mm/revolution, and with v=6 m/min, t = 1.0 mm, and s=0.6 mm/rev. Wear on the rear face of the tips was used as a criterion of the wear. The results are illustrated in four graphs (Fig. 1-4). It was established that 8% Co gave the maximum wear resistance and hardness. A Co content lower than 8% gave lower wear resistance on account of insufficient alloy strength (the cutting edge crumbled), and higher than 8% also resulted in lower wear resis-

Card 1/2

Wear resistance of W-Co ...

tance on account of insufficient hardness. A lower feed rate facilitated cutting and raised wear resistance. It was concluded that the cutter tips used for machining EI437 alloy must have higher strength than those used for cutting cast iron or steel. The maximum wear resistance for continuous cutting of EI437 is shown by cutter tips with 8% Co; for intermittent cutting of cast iron and steel the Co content in W-Co alloy cutting tips must be lower. There are 4 figures and 2 Soviet-bloc references.

Card 2/4 2

TUMANOV, V.I.; FUNKE, V.F.; PAVLOVA, Z.I.; NOVIKOVA, T.A.; BYSTROVA, K.A.

Effect of the composition and structure of alloys in the system WC - Co and TiC - WC - Co on the strength limit during compression. Fiz. met. i metalloved. 15 no.2:285-289 F '63. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.

(Tungsten-cobalt alloys--Metallography)
(Titanium-tungsten-cobalt alloys--Metallography)
(Deformations(Mechanics))

FUNKE, V.F.; ROMANOV, K.F.; NOVIKOVA, T.A.; GUSEVA, A.N.; BYSTROVA, K.A.

Durability of tips made of tungsten-cobalt hard alloy used in the machining of the EI437 alloy. Stan.i instr. 32 no.6:32-33 Je '61. (MIRA 14:6)

(Metal-cutting tools)
(Cobalt-tungsten alloys)

SOKOLOVSKIY, A.L.; BYSTROVA, L.G.; NIKIFOROVA, V.N.

Change in sugars during the production of milk caramel.
Izv.vys.ucheb.zav.; pishch.tekh. no.3:54-56 '59.
(MIRA 12:12)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti. Kafedra konditerskogo i makaronnogo proizvodstva.
(Caramel)

USSR / Pharmacology, Toxicology. Anti-Inflammatory Drugs. V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42429.

Author : Bystrova, L. N.
Inst : Not Given.
Title : Data Concerning the Problem of the Action Mechanism of Antipyrin and Pyramidon on the Normal and Febrile Organism.

Orig Pub: V. sb. Fiziol. mekhanizmy likhoradochn. reaktsii. L. Medgiz, 1957, 197-206.

Abstract: Administration of antipyretic drugs to overheated healthy men failed to affect the temperature curve; in rabbits these drugs slowed up somewhat the T^0 rise upon overheating. Preliminary administration of antipyrine (A) to rabbits slowed down the course of the febrile reaction following administration

Card 1/3

USSR / Pharmacology, Toxicology. Anti-Inflammatory Drugs. V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42429.

Abstract: of a pyrogen. The administration of pyramidon prevented the development of the febrile reaction, upon subsequent administration of a pyrogen, and lowered the body T^{0}. When the temperature dropped below normal, the pyrogen elevated it somewhat. The administration of A during the initial phase of fever was less effective than during the late phase. Subcutaneous injection of A causes a more rapid and more marked fall of the temperature, than an intravenous injection. The greatest antipyretic effect was noted by injection of A into the kidney, greater than into the kneejoint; a somewhat lesser effect - by subcutaneous injections; the least effective was intradermal and intravenous injection. The author admits the possibility of the partici-

Card 2/3

USSR / Pharmacology, Toxicology. Anti-Inflammatory Drugs. V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42429.

Abstract: pation of reflex mechanisms in the action of A upon the CNS. -- L. A. Strugach

Card 3/3

USSR/Human and Animal Physiology. Thermoregulation. T

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93053.

Author : Bystrova, L.N., Shevel'ko. Ye. A.
Inst : [redacted]
Title : Influence of Fever Caused by Prolonged Repeated Introduction of Pyrogenal upon the Rabbit Organism.

Orig Pub: V sb.: fiziol. mekhanizmy likhoradochn. reaktsii, L., Medgiz, 1957, 329-332.

Abstract: A study was made of the influence of repeated paroxyms of fever in rabbits provoked by a 25 - 27-day course of intravenous injections of a purified bacterial polysaccharide, Pyrogenal (I). 5 γ per kg of I was introduced into a physiological solution. After 1 hour the rectal temperature rose in all of the animals, and it became normal after 3 - 6 hours. The degree of

Card : 1/3

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93053.

temperature elevation and the continuance of the fever reaction did not depend on the number of previous injections of I, but several phases were noted in the degree of elevation depending on the day of injection of I. From the 6th through the 10th day the reaction was least intensive, and from the 16th through the 20th it was most pronounced. Introduction of a dose of I, increased 10 - 50-fold, did not evoke any signs of intoxification. The gas metabolism did not increase. The maximal elevation in the temperature of the skin of the ear and the back occurred at the moment of the lowering of the rectal temperature. Judging by changes in the temperature of the skin, the basis of the elevation in the body temperature under the influence of I was the restricted emission of heat. Further experi-

USSR/Human and Animal Physiology. Thermoregulation. T

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93053.

ments with repeated injections of I at various stages of the fever showed that the fever caused by I was not accompanied by any signs of intoxication and was not a consequence of it. The doses of I were less effective with subcutaneous than with intravenous injection. -- L.A. Strugach.

Card : 3/3

BYSTROVA, L.N.

Antipyretic effect of pyramidon in postvaccinal fever, dinitriphenol hyperthermia, and experimental diphtheria intoxication. Biul. eksp. biol. i med. no.2:37-41 F '61. (MIRA 14:5)

1. Iz otdela obshchey patologii (zav. - chlen-korrespondent AMN SSSR prof. P.N.Veselkin) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR S.V. Anichkovym.

(AMINOPYRINE) (FEVER) (DIPHTHERIA)
(VACCINATION)

S/696/61/003/000/004/011
D251/D304

9.7000

AUTHORS: Yushchenko, K.L., and Bystrova, L.P.

TITLE: A programming program for which an address algorithm serves as information

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 3, 1961, 30 - 41

TEXT: The authors discuss an algorithm for the transfer from an address program to the program of an actual computer, the particular case of the "Kyyiv" computer being described. A program for which an address algorithm serves as information is designated by ПП-А (PP-A), and a variant of this for the "Kyyiv" computer, described by L.N. Ivanenko and E.L. Yushchenko (Ref. 2: Zb. prats' Obchyslyuval'noho tsentra AN URSR, no. 4, 1960) is called the ПП-2 (PP-2). The information for this variant programming program is expressed in the form of 1) transformation formulae, 2) program entry formulae, 3) predicative formulae, 4) non-standard operators. Each

Card 1/2

of these is discussed in detail, a diagram being given for the division of the memory in the PP-A and in the operational program. The coding of individual operations is given in full. A programming algorithm is given, consisting of 1) leading algorithm block, 2) arithmetic block, 3) sub-programming block, 4) non-standard operator block, 5) memory address operator block, 6) shunting to sub-program, 7) true address appropriation block. Full programming details are given. There are 1 table and 3 Soviet-bloc references.

Card 2/2

1. BYSTROVA, M.A.

2. USSR (600)

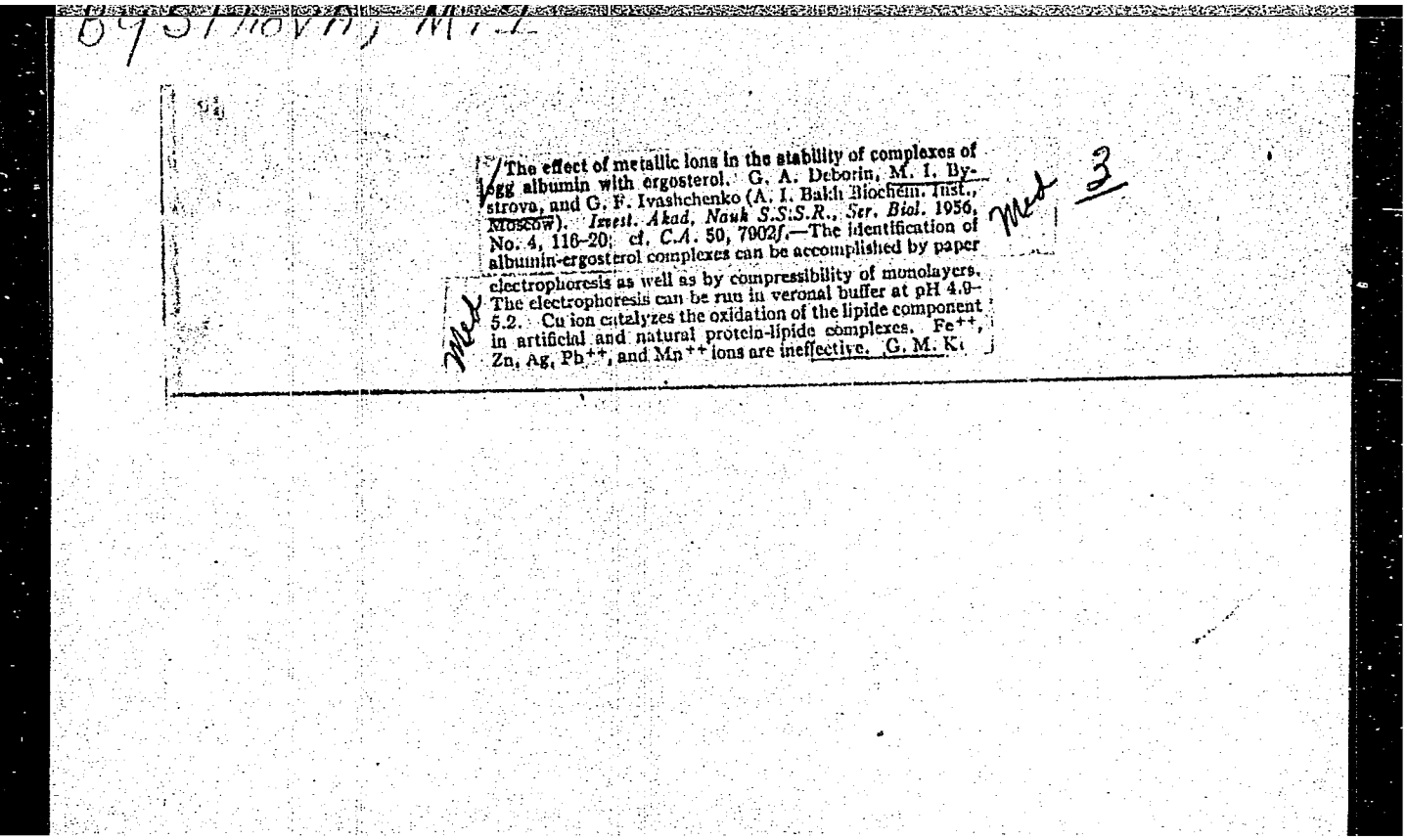
7. "A Study of the Root Rot of Beet Seedlings and Sprouts in Leningrad Oblast", Trudy Vsesoyuzn. In-ta Zashchity Rastenly (Works of the All-Union Institute Of Plant Protection), No 3, 1951, pp 22-37.

9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.

BILENKO, M.V.; BYSTROVA, M.F.

Histological changes in prostheses from polyvinyl alcohol in plastic surgery on peripheral vessels in an experiment. Trudy 1-go MMI 16:106-116'62. (MIRA 16:6)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - chlen-korrepondent AMN SSSR prof. V.V.Kovanov) Pervogo Moskovskogo ordena Lenina meditsinskogo instituta.
(PROSTHESIS) (BLOOD VESSELS—SURGERY)
(VINYL ALCOHOL POLYMERS)



The effect of metallic ions in the stability of complexes of egg albumin with ergosterol. G. A. Deborin, M. I. Bystrova, and G. F. Ivashchenko (A. I. Bakh Biochem. Inst., Moscow). *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1956, No. 4, 116–20; cf. *C.A.* 50, 7902*f*.—The identification of albumin-ergosterol complexes can be accomplished by paper electrophoresis as well as by compressibility of monolayers. The electrophoresis can be run in veronal buffer at pH 4.0–5.2. Cu^{++} ion catalyzes the oxidation of the lipide component in artificial and natural protein-lipide complexes. Fe^{++}, Zn, Ag, Pb^{++}, and Mn^{++} ions are ineffective. G. M. K.

AUTHORS: Deborin, G. A., Ivashchenko, G. F., Bystrova, M. I. SOV/20-122-4-31/57

TITLE: An Investigation of Egg Albumin and Carotene Complexes (Issledovaniye kompleksov yaichnogo al'bumina s karotinom)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4, pp 650-652 (USSR)

ABSTRACT: It is known that the lipoproteins of the blood serum contain, in addition to sterols, a considerable amount of carotenoides also (Ref 1). Carotene, however, is not in colloidal solution in the blood serum, as contrasted with previous conceptions, but is closely combined with the albumins of the blood (Ref 2). In reference 3 it was proved by electrophoresis that carotene possesses a specific affinity to the serum globulin. The carotene containing lipoproteins form widespread and often physiologically important pigments in the organism. According to a survey of publications (Refs 4-8) the authors denote the purpose of the present paper as the investigation of the interactions of carotene with egg albumin under the conditions described in their previous papers dealing with sterols (Ref 7).

The ultraviolet absorption spectra were measured by the spectrophotometer SF -4 within the wave range between 240 and 300 mμ. It was first proved that the variation of the absorption intensity is not due to a denaturation of the albumin but to the complex formation. Figure 1 shows typical absorption curves of the egg albumin (Curve 1) and of the complex of the egg albumin with carotene (Curve 2) in the quoted range (ordinante - extinction, abscissa - wave lengths). From this it is seen that in the formation of the mentioned complex the absorption maximum of the albumin at 280 mμ is not altered, but a distinct variation of the absorption intensity takes place. It was proved (Ref9) that such a variation is caused by various factors, among others by the variation of the state of aggregation of the protein molecules, even if they remain chemically unchanged. This means that the chromophore groups are not involved in such a process. The reduction of the absorption maximum by protein solutions in the complexformation with carotene is due to a combination of aggregation- and denaturation effects and cannot be taken as a quantitative measure of the complex formation. Nevertheless, this method has proved suitable for the qualitative identification of the

nascent protein-carotene complex. Parallel spectral investigations on monomolecular layers supported this conclusion. Figure 2 shows isotherms of the compressibility of a monolayer of egg albumin (Curve 1) and of the egg albumin-carotene complex in a 5 % solution of ammonium sulfate. From the above experimental results the conclusion may be drawn that at 40° the egg albumin forms a complex which is stable in a broad pH-range. By this means carotene is protected by the protein against oxidation by atmospheric oxygen. There are 2 figures, 1 table, and 11 references, 9 of which are Soviet.

ASSOCIATION: Institut biokhimii im. A. N. Bakha Akademii nauk SSSR (Institute of Biochemistry imeni A. N. Bakh of the Academy of Sciences,USSR)

PRESENTED: April 23, 1958, by A. I. Oparin, Academician

SUBMITTED: April 22, 1958

An Investigation of Egg Albumin and Carotene Complexes

SOV/20-122-4-31/57

Card 4/4

65102 — 85 —

17(3)
AUTHORS: Deborin, G. A., Bystrova, M. I., Ivanova, V. P.

SOV/20-124-3-55/67

TITLE: Changes in the Proteolysis Process of Serum Albumin Caused by Tripsin in the Formation of Complexes of the Ferment or of the Substrate With Estradiol (Izmeneniye khoda proteoliza syvorotochnogo al'bumina tripsinom pri obrazovanii kompleksov fermenta ili substrata s estradiolom)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 3, pp 685-687 (USSR)

ABSTRACT: On a previous occasion (Refs 1-3), the authors had proved that the unstable complexes of certain proteins are more stable to various influences than are the initial proteins. Estradiol, too, is one of the water-insoluble sterols that can combine with serum albumin outside the organism (average: 0.43 mol estradiol per 1 molecule protein)(Ref 4). For this reason, the authors investigated the estradiol linkage to proteins under the same conditions under which the linkage with ergosterol took place. An investigation was made into the changes which cause the complex formation of the ferment or of the substrate with estradiol in the proteolysis of serum albumin. It was found that, analogous to ergosterol, estradiol forms unstable complexes with proteins which participate in the proteolytic process. Thus the proteolytic process is slowed down, and the

Card 1/3

Changes in the Proteolysis Process of Serum Albumin Caused by Tripsin in the Formation of Complexes of the Ferment or of the Substrate With Estradiol

splitting intensity of the substrate by the ferment is reduced. This result can be naturally explained by the fact that the complex formation stabilizes the protein against influences which disturb the protein structure. In the formation of the complex of a proteolytic ferment with sterol, the activity of the ferment in the complex is higher than the activity of the initial ferment. In the opinion of the authors, this phenomenon can be explained by the fact that, as a consequence of the complex formation, the ferment is more resistant to the disactivation resulting from its denaturation and autodigestion. These data confirm the view that the complex formation of proteins with lipoids constitutes one of the factors that control the enzymatic processes within the cell.- There are 4 figures and 6 references, 4 of which are Soviet.

ASSOCIATION: Institut biokhimii im. A. N. Bakha Akademii nauk SSSR (Institute of Biochemistry imeni A. N. Bakh of the Academy of Sciences, USSR)

KRASNOVSKIY, A.A.; BYSTROVA, M.I.

Fluorescence spectrophotometric study of chlorophyll synthesis in homogenates of etiolated leaves. Biokhimiia 25 no.1:168-179 Ja-F '60. (MIRA 13:6)

1. Institut biokhimii imeni A.N. Bakha Akademii nauk SSSR, Moskva.
(CHLOROPHYLL metab.)

KRASNOVSKIY, A.A.; BYSTROVA, M.I.; SOROKINA, A.D.

Fractionation of different pigment forms in the homogenates of ethiolated and illuminated leaves. Dokl.AN SSSR 136 no.5:1227-1230 F '61. (MIRA 14:5)

1. Institut biokhimii im. A.N.Bakha AN SSSR, Mosk. gos. universitet im. M.V.Lomonosova. Predstavleno akad. A.N.Tereninym.
(CHLOROPHYLL)

VOROB'YEVA, L.M.; BYSTROVA, M.I.; KRASNOVSKIY, A.A.

Phytolic and nonphytolic forms of pigments in leaves and homogenates. Biokhimiia 28 no.3:524-534 My-Je '63. (MIRA 17:2)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R., Moscow.

BYSTROVA, M.I.; KRASNOVSKIY, A.A.

Study of fluorescence spectra of protochlorophyll and protopheophytin at different states. Biofizika 10 no.3:433-440 '65. (MIRA 18:11)

1. Institut biokhimii imeni Bakha AN SSSR, Moskva. Submitted Feb. 24, 1964.

BYSTROVA, N. A.
Diagnostics

Dissertation: "Authenticity of Date Obtained by the Anamsestic Method." Cand Med Sci, Acad Med Sci USSR, 31 Mar 54. (Vechernyaya Moskva Moscow, 31 Mar 54)

SO: SUM 213, 2[illegible] Sep 1954

BYSTROVA, N. A.

USSR/Medicine - Tularemia

FD-555

Card 1/1 Pub. 148 - 18/23

Author : Shatas, Ya.F. and Bystrova, N. A.

Title : The role of ixodidae ticks in the maintenance of natural tularemia foci

Periodical : Zhur. mikrobiol. epid. i immun. 6, 55-61, Jun 54

Abstract : Of the 13 species of ixodidae ticks inhabiting the territory [not specified] under investigation, four species - Dermacentor marginatus, Rhipicephalus rossicus, Ixodes laguri, and Halmophysolis punctate, are important in the transmission of tularemia and the maintenance of tularemia foci. The ecological, biocenotic, and epidemiological factors pertaining to the ixodidae ticks and their hosts, primarily rodents, are discussed in detail. Two charts illustrate the occurrence of tularemia-causing microorganisms in ixodidae ticks and other carriers. No references are cited.

Institution : The Stalingrad Station of the Ministry of Health USSR (Chief - Candidate of Medical Sciences N. I. Makarov)

Submitted : April 6, 1953

ACC NR: AP6036405 SOURCE CODE: UR/0148/66/000/011/0110/0112

AUTHOR: Bystrova, N. A.; Vishnyakov, D. Ya.

ORG: Moscow Aviation Technology Institute (Moskovskiy aviatsionnyy tekhnologicheskiy institut)

TITLE: Effect of boron on the structure and properties of heat-resistant Kh16N25M2V5 steel

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1966, 110-112

TOPIC TAGS: heat resistant steel, chromium nickel molybdenum steel, boron containing steel, tungsten containing steel, steel structure, steel property/Kh16N25M2V5 steel

ABSTRACT: Cast specimens of Kh16N25M2V5 steel containing 0.005—0.14% B were annealed at 1200C for 1.5 hr, water quenched, and aged at 600—800C for 20 hr. As-cast specimens had a dendritic, coarse-grained structure with nonuniform distribution of carbides within grains and a carbide network at grain boundaries. Annealing brought about the dissolution of carbides. Aging produced the precipitation of secondary phases uniformly distributed within grains. In steels with 0.09% B and 0.14% B, the precipitated particles were very dispersed after aging at all temperatures tested. Alloying with 0.05—0.14% B intensifies the aging in proporation to boron content. Steel with 0.14% boron had a hardness of 195—205 kg/mm^2, compared with 157 kg/mm^2 for steel containing 0.005% B, at contents of 0.05—0.09%. However, at

Card 1/2 UDC: 669.14.018.45 : 669.781 : 669.011.7

ACC NR: AP6036405

850C the hardness drops significantly, indicating that 800—850C is the upper limit of the operational range for this steel. The optimum boron content was found to be 0.05—0.09%. Steel with 0.05% B had a tensile strength of 34.3 kg/mm^2, a yield strength of 23.7 kg/mm^2, an elongation of 20.8%, a reduction of area of 46.5%, and a rupture life (under a stress of 20 kg/mm^2) of 115 hr compared to 29.8 kg/mm^2, 17.6 kg/mm^2, 18.4%, 29.7%, and 65 hr for steel without boron and 33.0 kg/mm^2, 24.5 kg/mm^2, 9.2%, 2.31%, and 90 hr for steel with 0.14% boron. Orig. art. has: 4 figures.

SUB CODE: 11, 13/ SUBM DATE: 24Dec65/ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5107

Card 2/2

ACC NR: AT6036410 (N) SOURCE CODE: UR/2536/66/000/066/0016/0020

AUTHOR: Bystrova, N. A. (Engineer); Vishnyakov, D. Ya. (Doctor of technical sciences, Professor)

ORG: none

TITLE: Hardness of high-temperature steels at elevated temperatures as a function of their alloying and heat treatment

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 66, 1966. Struktura i svoystva aviatsionnykh staley i splavov (Structure and properties of aircraft steels and alloys), 16-20

TOPIC TAGS: hardness, high temperature strength, high temperature steel, metal aging

ABSTRACT: It is known that the indicators of hardness and high-temperature strength are interrelated. In this connection, the authors investigated the effect of alloy elements and aging temperature on hot hardness at 800°C. The investigation was performed with Cr-Ni steels alloyed with Al (steel 1), W (steel 2), W and Mo (steel 3), W, Mo and Ti (steels 4 and 5) and W, Mo, Ti and Al (steel 6), heat-treated by the following method: hardening (heating at 1200°C

Card 1/3 UDC: 669.017:669.15'26'24

for 2 hr with subsequent water cooling) and aging at 600, 700, 750, 800, 850 and 900°C for 20 hr. The specimens thus treated were subjected to Brinell hardness tests at 800°C. Findings: steel 4, alloyed with a small amount of Ti, is the least hardenable, while steels 5 (containing Ti) and 6 (containing Ti and Al) are the most hardenable (Fig. 1).

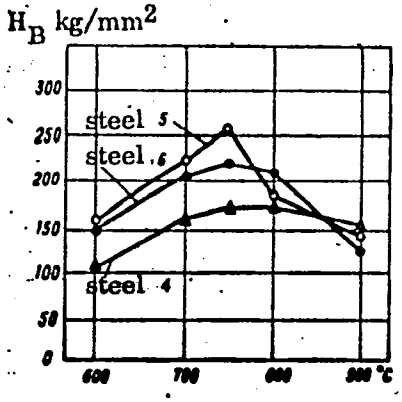


Fig. 1. Change in hardness as a function of aging temperature

ACC NR: AT6036410

The hardening of steels 5 and 6 occurs more intensely owing to the formation of a new hardening phase with having the general formula of β-Ni_3Ti. The optimal aging temperature is 750-800°C. As the duration of the hot hardness test increases (from 0.5 to 15 min) the hardness of steels decreases; this corresponds to the pattern of variation in strength during stress-rupture tests and is evidently associated with the development of processes of plastic deformation at high temperatures. This was confirmed by subsequent mechanical tests which also pointed to a direct correspondence between hardness and strength characteristics: the maximum long-time hardness of 136 kg/mm, achieved after aging at 750°C, corresponds to the longest time to fracture (40 min). Thus the hot hardness test method makes it possible to classify the investigated steels according to the level of high-temperature strength. The test findings show that high-temperature hardness is a sufficiently objective indicator of the high-temperature strength of the investigated steels. Thus steel 1, which displays high hardness at room temperature, displays the least hardness and stress-rupture strength at 800°C, while steel 6, which occupies an intermediate position as regards hardness at room temperature, proved to have the highest high-temperature strength at 800°C. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 3/3

ACC NR: AT6036412 (N) SOURCE CODE: UR/2536/66/000/066/0033/0038

AUTHOR: Vishnyakov, D. Ya. (Doctor of technical sciences, Professor); Bystrova, N. A. (Engineer)

ORG: none

TITLE: Effect of rare-earth elements on the structure and properties of Khl6N25M2V5 steel

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 66, 1966, Struktura i svoystva aviatsionnykh staley i splavov (Structure and properties of aircraft steels and alloys), 33-38

TOPIC TAGS: nickel steel, chromium-~~nickel~~ steel, rare earth element, cerium, praseodymium, metal grain structure, hardness, mechanical property / Khl6N25M2V5 chromium-nickel steel

ABSTRACT: The effect of cerium (0.02%) and praseodymium (0.02%) on the structure, hardness and mechanical properties of cast Khl6N25M2V5 chromium-nickel steel at 800°C was investigated. Untreated specimens of this steel contain irregularly shaped inclusions of oxides, sulfides and oxysulfides, whereas the specimens treated with Ce and Pr contain spheroid inclusions and, further, display a greater number of carbides. Hot Brinell hardness tests of

Card 1/2 UDC: 669.017:669.15'26'24'28

ACC NR: AT6036412

specimens aged at 600, 700, 750, 800 and 900°C for 20 hr showed that the hardness of steel treated with Ce and Pr is superior to the hardness of untreated steel regardless of aging temperature, while mechanical tests showed that the plasticity and breaking strength at 800°C of steel treated with Ce and Pr are superior to those of untreated steel. Evidently the addition of Ce and Pr activizes the processes of aging, increasing hardness of Khl6N25M2V5 steel to 200 kg/mm^2 from 145-155 kg/mm^2 at 800°C. These findings are in agreement with the data of other investigators, indicating that rare-earth elements form with Fe small regions of solid solutions, alter the position of the critical points and narrow the γ-region. Under the influence of rare-earth elements the carbon in the castings gets redistributed and the segregation of the other alloy elements (Cr, Mo) is enhanced. It thus may be assumed that the activization of aging processes is associated with the decrease in the solubility of carbon in austenite in the presence of Ce and Pr. The positive effect of Ce and Pr on properties at high temperatures is also attributable to the attendant elimination of impurities from grain boundaries and the change in the state of these boundaries due to the ability of rare-earth elements to get dissolved in boundary volumes and reduce the diffusion mobility of Cr atoms. Orig. art. has: 11 figures, 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 009

Card 2/2

BYSTROVA, N.M.

Lower the cost of metals. Metallurg no.7:1-3 Jl '56. (MLRA 9:9)

1.Planovoye upravleniye Ministerstva chernoy metallurgii SSSR.
(Metals--Costs)

BYSTROVA, N.M.

25(3) PHASE I BOOK EXPLOITATION SOV/1674

Mayzel's, David L'vovich, and Nataliya Mikhaylovna Bystrova

Sebestoimost' chernykh metallov (Cost of Ferrous Metals) Moscow, Metallurgizdat, 1958. 187 p. 4,000 copies printed.

Ed.: K.M. Gerbanovskaya; Ed. of Publishing House: A.I. Brushteyn; Tech. Ed.: M.R. Kleynman.

PURPOSE: The book is intended for workers and foremen engaged in production of ferrous metals. It may be useful to engineering and technical personnel desiring to improve their knowledge of the economic aspects of metallurgical processes.

COVERAGE: This book acquaints the reader with the cost structure of pig iron, ingot and rolled steel at a metallurgical establishment and with the effect upon the cost of ferrous metals of such factors as the technological level of production processes, and geographical and economic conditions of a given area. It also discusses attempts on the part of leading metallurgical establishments to utilize [hidden] unused capacities. Ways and means of reducing production

Card 1/6

costs, methods of calculating, planning, accounting, and cost analysis are also reviewed. No personalities are mentioned. There are 11 Soviet references.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

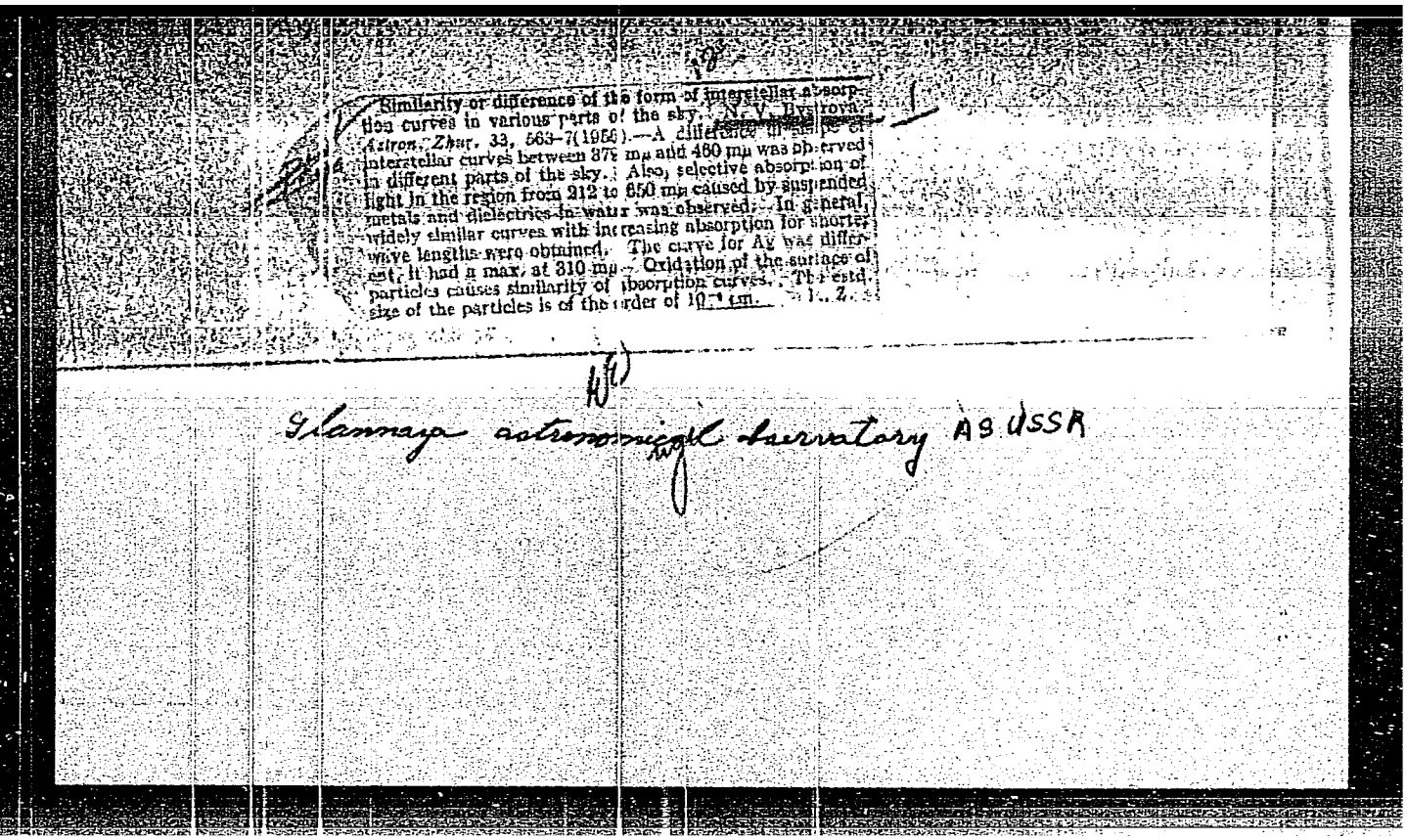
Card 6/6

JG/ad
7-21-59

BYSTROVA, N. V.

BYSTROVA, N. V.: "A study of the coloring of stars in selected portions of the sky." Leningrad, 1955. Acad Sci USSR. Main Astronomical Observatory. (Dissertation for the Degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya letopis' No. 47, 19 November 1955. Moscow.



Similarity or difference of the form of interstellar absorption curves in various parts of the sky. N. V. Ilyinova. *Astron. Zhur.*, 33, 563–7(1956).—A difference in the form of interstellar curves between 370 mμ and 480 mμ was observed in different parts of the sky. Also, selective absorption of light in the region from 212 to 350 mμ caused by suspended metals and dielectrics in water was observed. In general, widely similar curves with increasing absorption for shorter wave lengths were obtained. The curve for Ay was different, it had a max. at 310 mμ. Oxidation of the surface of particles causes similarity of absorption curves. The estd. size of the particles is of the order of 10^{-4} cm.

G. Lamaya astronomical observatory AS USSR

BYSTROVA, N.V.

Reddening of stars in selected regions of the sky. Izv.GAO 20 no.5:74-129 '58. (MIRA 13:5)
(Stars--Color)